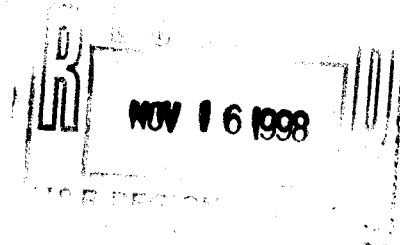




UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

NOV 10 1998

Reply To
Attn Of: AOO/A



Colonel Sheldon L. Jahn, District Engineer
Department of the Army
U.S. Army Corps of Engineers, Alaska District
Post Office Box 898
Anchorage, Alaska 99506-0898

ATTN: Ms. Susan Hitchcock

RE: Gastineau Channel 341; AA-810320
City and Borough of Juneau--Juneau International Airport

Dear Colonel Jahn:

This letter regards the referenced Public Notice (PN) of Application for Permit submitted by the City and Borough of Juneau--Juneau International Airport, to discharge approximately 54,000 cubic yards of clean sand and gravel, and approximately 3,000 cubic yards of rip rap into approximately 5.5 acres of waters of the United States, including intertidal/estuarine areas adjacent to Jordan Creek and within the Mendenhall Wetlands in Juneau, Alaska. The purpose of the project is to expand the hangar and tie-down areas within the Juneau International Airport (JIA).

On October 16, 1998, the U.S. Environmental Protection Agency (EPA) provided comments to your office regarding this proposed project. At that time, we recommended that the Corps deny the applicant's request for a permit based upon the likelihood that the project may result in substantial and unacceptable impacts to an aquatic resource of national importance. We have enclosed a copy of that letter for your convenience (Enclosure 1).

EPA is not opposed to the development needs of local communities. However, under the Clean Water Act, the EPA has a responsibility to ensure that impacts associated with development activities will not result in a substantial and unacceptable impact to the nation's aquatic resources. To date, the applicant has not provided a response to our October 16, 1998, comments regarding practicable alternatives to the proposed project which would avoid and/or minimize impacts to the aquatic environment. In addition, the applicant has not provided a description of mitigation options that would adequately compensate for the unavoidable adverse impacts from the proposed discharge.

Therefore, pursuant to Part IV, Part 3(b) of the August 11, 1992, Clean Water Act Section 404(q) Memorandum of Agreement (MOA) between our agencies, this letter serves as your notification that, in EPA's opinion, the proposed discharge will have a substantial and unacceptable impact on an aquatic resource of national importance. We have provided detailed site-specific information to support our determination that (1) the Mendenhall Wetlands ecosystem is an aquatic resource of national importance; (2) the discharge from the proposed project will have substantial and unacceptable impacts (direct, secondary, and cumulative) on an aquatic resource of national importance; and (3) the specific permit, as proposed, must be denied to protect the Mendenhall Wetlands, an aquatic resource of national importance.

(1) Aquatic Resource of National Importance

The proposed discharge of fill material into intertidal/estuarine wetlands associated with the expansion of the hangar and aircraft tie-down areas for the Juneau International Airport will result in substantial and unacceptable adverse effects to the Mendenhall Wetlands, an aquatic resource of national importance. The following detailed site-specific information supplements our October 16, 1998, comments, and provides our rationale for designating the Mendenhall Wetlands as an aquatic resource of national importance.

The Mendenhall Wetlands encompasses a series of estuaries created by a number of freshwater streams flowing into Gastineau Channel. This marine/freshwater interface creates a diverse aquatic habitat critical for maintaining fish and wildlife populations. The Alaska Department of Fish and Game (ADFG) has catalogued Jordan Creek (#111-50-10620) as important for supporting native populations of coho and pink salmon, and Dolly Varden Char.¹ In general, the entire Jordan Creek system consists of riffles and pools. Good spawning and rearing habitat is found throughout the system.

Historical data and counts for juvenile fish (Table 1) and coho salmon escapement (Table 2) collected by ADFG indicate that Jordan Creek produces good numbers of coho salmon and Dolly Varden. In 1981, 100 juvenile coho and 30 juvenile Dolly Varden were trapped along the reach from airport runway to just above Yandukin Drive. In addition, winter coho salmon surveys conducted in 1986 indicated that Jordan Creek supported fish population densities comparable to other small streams in Juneau (Table 3). Certain reaches of Jordan Creek maintained exceptional numbers of juveniles and many of very good size.² In contrast, more recent fish trapping counts conducted by ADFG have indicated a serious decline in the number of returning coho salmon to Jordan Creek. Coho salmon have dropped from a long term average of 250 adult returns per year to 54 in 1996 and 18 in 1997.³

¹Alaska Department of Fish and Game (1997). Catalogue of waters important for spawning, rearing, or migration of anadromous fishes, Southwest Region.

²Adamus (1987). Juneau Wetlands: Functions and Values. Prepared for the City and Borough of Juneau.

³Alaska Department of Environmental Conservation (1998). 1998 Final-April 1, 1998, Section 303(d). Listed Water Quality-Limited Waterbodies.

Juneau and Southeast Alaska for coho salmon, but is experiencing a rapid decline. Fish habitat values have been subject to tremendous abuse by adverse land uses for many years. Much of the productive capability of Jordan Creek has been lost. The fishery values of this system are very vulnerable to impacts from future land use activities.⁶

As mentioned in our previous comments, the Alaska Department of Environmental Conservation (ADEC) has listed Jordan Creek as a Tier 1 water quality-limited waterbody for exceeding Alaska Water Quality Standards (18 AAC 70) for pollutants such as sediments, debris, and dissolved oxygen (DO) pursuant to Section 303(d) of the Clean Water Act.³ The sources of pollutant loading included: (1) land development and (2) road runoff. In addition, the Mendenhall Watershed and Jordan Creek are identified in the State of Alaska's Unified Watershed Assessment (October 1998) as Category 1 Watersheds, which are those "Most in Need of Restoration."

The proposed expansion for the airport hangar and tie-down area adjacent to Jordan Creek would result in further loading of sediments, debris, and other pollutants from (1) the erosion of the fill side slopes, and (2) the introduction of metals, oil and other petroleum hydrocarbons, deicing agents, etc. carried by storm water runoff into the already "impaired" water body. Additional pollutant loading would contribute to the lower dissolved oxygen levels experienced by Jordan Creek.

Furthermore, the proposed activity would result in the displacement of waterfowl and migratory birds utilizing this habitat for feeding, resting, and staging. The increased noise from aircrafts and human disturbance may further displace birds for this wetland area. Development activities adjacent to wetlands have been documented to significantly reduce wetland functions for migratory birds despite the fact that the wetlands remain.⁷ Moreover, physical disturbance has been documented to negatively affect such activities as feeding, resting, and staging.^{8,9}

Cumulative Impacts

As a result of being located in an urban population center, over half (>50%) of the original Mendenhall Wetlands have been lost as a result of the piecemeal residential, commercial, and industrial development activities, including the Juneau International Airport. In particular, between 1948 and 1984 (36 years), the East Mendenhall Subunit Boundary (2,712 acres) has experienced over 67 percent (310 acres) loss of the original wetlands as a result of development activities (Figure 1). This translates to a wetlands loss rate of 8.6 acres per year (Table 6). Extrapolating this same wetlands loss rate for the East Mendenhall Subunit, an

⁶Bethers, M., Munk, K., and Seifer, C. (1993). Juneau Fish Habitat Assessment. Alaska Department of Fish and Game, Division of Sportfish, Douglas, Alaska.

⁷Washington Department of Wildlife (1992). Buffer needs of wetland wildlife. Habitat Management Division (WDOW).

⁸Burger, J. (1981). The effect of human activity on birds at a coastal bay. *J. Biol. Conserv.* 21:231-241.

⁹Pfister, C., Harrington, B.S., and Lavire, M. (1992). The impacts of human disturbance on shorebirds at a migration staging area. *J. Biol. Conserv.* 60: 115-126.

Moreover, a tributary connects to Jordan Creek at the northeast corner of the proposed project area. This tributary was created to enhance fisheries use within the area and to mitigate for the unavoidable wetland impacts resulting from previous fill activities for the expansion of the airport. Presently, this tributary provides important rearing habitat for juvenile fish prior to transiting the culvert for deeper marine waters.

Furthermore, the Mendenhall Wetlands provide critical nesting, feeding, rearing, wintering, and staging habitat for migratory and resident bird populations. In 1987, the U.S. Fish and Wildlife Service (USFWS) conducted a bird survey of the Mendenhall Wetlands.⁴ Over 100 species of birds were observed in the Mendenhall Wetlands (Table 4). Another study indicated that at least 227 species of birds have been observed within and adjacent to the Mendenhall Wetlands.⁵ The proposed project site (between the runway and Jordan Creek) was a previous USFWS bird survey area (Unit 9). A large concentration of birds were observed using this wetland area. These birds included: scaup, bufflehead, green-winged teal, mallard, American wigeon, and trumpeter swan. The average number of the 20 most numerous bird species observed in Unit 9 per survey in order of decreasing abundance is depicted in Table 5.

(2) Substantial and Unacceptable Adverse Impacts

In our opinion, the proposed discharge for the expansion of the hangar and aircraft tie-downs at the Juneau International Airport will result in substantial and unacceptable (e.g., direct, secondary, and cumulative) impacts to an aquatic resource of national importance. To supplement our earlier comments, the EPA would like to provide additional information regarding these adverse impacts.

Direct Impacts

The proposed discharge of fill material for the expansion of the hangar and tie down area would directly eliminate 5.5 acres of intertidal/estuarine wetlands adjacent to Jordan Creek, and within the Mendenhall Wetlands. This project would adversely impact wetlands which provide critical staging and feeding habitat for a variety of migratory birds and shorebirds. The impacts would likely result in a marked decrease and/or shift in bird use of the area. Bird species which are sensitive to disturbance and/or require large intertidal habitat may be displaced. Furthermore, important "High" ecological functions for sediment/toxicant retention, riparian support, nutrient export, salmonid habitat, and disturbance sensitive wildlife would be eliminated.

Secondary Impacts

The discharge of fill for the proposed project would adversely impact the fisheries resources of Jordan Creek. Jordan Creek has been one of the most productive small streams in

⁴Cain, S.L., Hodges, J.L. and Wilson, E. (1988). Bird use of the Mendenhall Wetlands in Juneau, Alaska. U.S. Fish and Wildlife Service.

⁵Alaska Department of Fish and Game (1990). Mendenhall Wetlands State Game Refuge Management Plan.

additional 120 acres of wetlands may have been lost between 1984 to 1998 (14 years). This proposed project would contribute to this trend of wetlands loss by eliminating 5.5 acres of intertidal/estuarine areas within the Mendenhall Wetlands.

(3) Permit Denial

To be clear, the EPA is not opposed to the development needs of local communities. However, in this case, we can not support a proposed project which does not comply with the Section 404(b)(10) Guidelines (Guidelines). As proposed, the expansion of the hangar and aircraft tie-down areas for the Juneau International Airport will result in substantial and unacceptable impacts to an aquatic resource of national importance. In order to protect the aquatic resource of national importance, we maintain our recommendation that the Corps deny this specific permit request.

To date, the applicant has not provided a response to our October 16, 1998, comments on the proposed project. Without the cooperation of the applicant to submit the additional information in a timely manner, our only option is to determine that the project, as proposed, does not comply with the Guidelines. We reiterate our findings of non-compliance with the restrictions on discharges as required under the Guidelines:

Section 230.10(a) Least Damaging Practicable Alternative

No discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge that would have less adverse impacts to the aquatic environment. In circumstances where the proposed discharge does not require siting in, or access to wetlands to fulfill the basic project purpose (i.e., the project is not water dependent), the Guidelines presume that practicable, less damaging alternatives are available unless clearly demonstrated otherwise by the applicant.

The project, as proposed, does not comply with this section of the Guidelines. In order to demonstrate compliance, the applicant should prepare and submit the following additional information:

- (1) Alternatives Analysis which considers and evaluates other alternatives sites, alternative configurations/layout designs, and alternative size requirements to fulfill the basic project purpose; and
- (2) Draft updated Juneau International Airport Master Plan.

Section 230.10(b) State Water Quality Standards

The project, as proposed, may cause or contribute to violations of the Alaska Water Quality Standards (18 AAC 70). As mentioned in our previous comments, Jordan Creek has been placed on the 1998 Section 303(d) Water Quality-Limited Waterbodies List for Alaska due to pollutant loads of sediment, debris, and dissolved oxygen. We believe that the proposed activity will contribute to additional loading of sediments and debris, resulting in decreased levels of dissolved oxygen in Jordan Creek.

In order to demonstrate compliance with this section of the Guidelines, the applicant should prepare and submit the following additional detailed information/plans:

- (1) Erosion and Sediment Control Plan;
- (2) Schedules for inspecting, maintaining, and cleaning the proposed oil/water separator, culverts, and settling pond, etc.; and
- (3) A water quality monitoring plan for the lower reach of Jordan Creek.

Section 230.10(c) Significant Degradation

The project, as proposed, will cause or contribute to significant degradation of the Mendenhall Wetlands and Jordan Creek. Piecemeal development of the Juneau International Airport has resulted in the cumulative loss of this aquatic resource of national importance. As mentioned previously, over 50 percent of the original Mendenhall Wetlands acreage have been eliminated (over 67 percent of the intertidal/estuarine wetlands in the East Mendenhall Subunit Boundary). Further impairment of the water quality will contribute significantly to the degradation of the aquatic life of Jordan Creek. Therefore, additional factual determinations, evaluations, and tests should be performed by the applicant to demonstrate that all appropriate and practicable steps have been taken to ensure compliance with this section of the Guidelines.

Section 230.10(d) Appropriate and Practicable Steps

The proposed project does not comply with this section of the Guidelines. To date, the applicant has not taken appropriate and practicable steps to minimize potential adverse impacts of the discharge on the aquatic ecosystem. Appropriate and practicable steps must be taken to modify the proposed project that will result in a net decrease in the pollutant loading to Jordan Creek. The steps that we previously recommended may to demonstrate compliance with the Guidelines are as follows:

1. Reduce the fill footprint by reorienting and reconfiguring the proposed hangar and aircraft tie-down area to the minimum necessary to fulfill the basic project purpose. When considering the overall hangar and tie-down needs for the JIA,

eliminating even a limited number of the proposed hangar spaces and tie-down areas from these intertidal/estuarine wetlands could substantially reduce the overall fill footprint area;

2. Reduce the fill footprint in wetlands to maintain a minimum 50-ft vegetated buffer as measured from the Ordinary High Water Mark (OHWM) of Jordan Creek and the toe of fill slope;
3. Evaluate other alternatives to the discharge of Class I and Class II rip rap to stabilize the fill side slopes, such as revegetation with low shrubs (e.g., willow), native grasses and/or a mixture of native vegetation interspersed with rock lined drainage ditches;
4. Develop and implement an Erosion and Sedimentation Control Plan, which includes schedules for inspecting, maintaining, and cleaning of the proposed oil/water separator, culverts, and settling pond; and
5. Develop and implement a water quality monitoring program for the lower reach of Jordan Creek.

Compensatory Mitigation

Provided that all appropriate and practicable steps have been taken to avoid and minimize the substantial and unacceptable impacts to the aquatic resource of national importance, the applicant must identify adequate compensatory mitigation options for the proposed impacts to 5.5 acres of intertidal/estuarine wetlands. The type and amount of compensatory mitigation proposed must be commensurate with the level of environmental impact to the aquatic environment.

As mentioned in our previous comments, we reiterate our requirements for compensatory mitigation:

1. *On-Site and In-Kind*

Presently, the applicant is evaluating the extension of the west end runway safety area, which could impact approximately 4 acres of intertidal/estuarine wetlands adjacent to the Mendenhall River. As part of the overall proposed airport expansion project, the EPA would prefer that future airport expansion occur toward the east end of the JIA boundary in order to maintain/preserve the remnant wetlands adjacent to the Mendenhall River. The EPA recommends that the applicant set aside the remaining portions of these intertidal/estuarine wetlands adjacent to the Mendenhall River as a conservation easement or as part of a Wetlands Mitigation Bank (see below). This easement could be managed in Perpetuity by the Southeast Land Trust (SEAL Trust).

2. *On-Site Enhancement*

A culvert, which is approximately 300 feet long, is located at the mouth of Jordan Creek. It runs at a right angle to and underneath Runway 8/26. The existing culvert may be undersized and may restrict/limit fish passage at low tides. EPA recommends that it be replaced with a wider (diameter) bottomless arched culvert.

3. *In-Lieu Fees*

Contribute a monetary fee to a conservation fund maintained by the SEAL Trust in-lieu of on the ground mitigation (e.g., enhancement, restoration, etc.). This fund could be utilized to purchase ecologically important intertidal/estuarine wetland areas within the Mendenhall wetlands ecosystem.

4. *Wetlands Mitigation Bank*

It is our understanding that the applicant is currently evaluating the feasibility of developing a wetlands mitigation bank for the City and Borough of Juneau. A wetlands mitigation bank would be an opportunity for the applicant to provide mitigation for this project, as well as future airport expansion projects that would impact wetlands.

5. *Off-Site and In-Kind*

The applicant currently owns large tracts of land within Berners Bay. There may be an opportunity for the applicant to set aside 5.5 acres of intertidal/estuarine wetlands within Berners Bay as part of a Wetlands Mitigation Bank and/or a conservation easement. This easement could be managed in perpetuity by the SEAL Trust.

The EPA would be willing to provide assistance in the development of additional mitigation options that would ensure compliance with the Section 404(b)(1) Guidelines of the Clean Water Act.

This project, in our opinion, does not comply with the Clean Water Act's Section 404(b)(1) Guidelines. No new information has come to light since our previous letter to alleviate our concerns; thus, pursuant to Part IV, Paragraph 3(b) of the August 11, 1992, Memorandum of Agreement (MOA) between our agencies. I hereby notify you that, in our opinion, the proposed project *will* have substantial and unacceptable impacts on Jordan Creek and the Mendenhall Watershed. Consequently, we continue to recommend that you deny the permit request.

In accordance with the MOA, please notify me if you choose not to accept our recommendation. We are willing to meet with you and your staff, the applicant and/or other interested parties to attempt to resolve this matter. Please feel free to call me at (206) 553-1234 or have your staff contact Mr. Mark Jen at (907) 271-5083.

Sincerely,



Chuck Clarke

Acting Regional Administrator

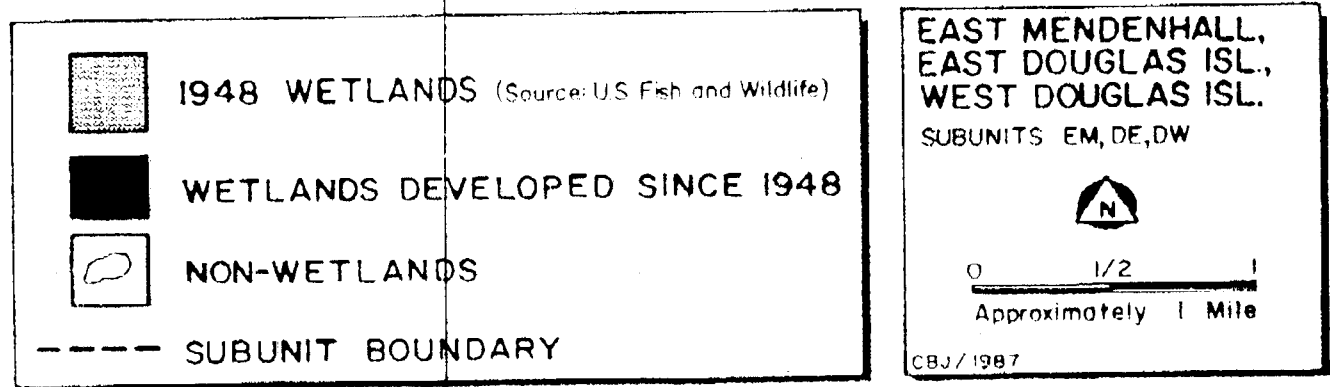
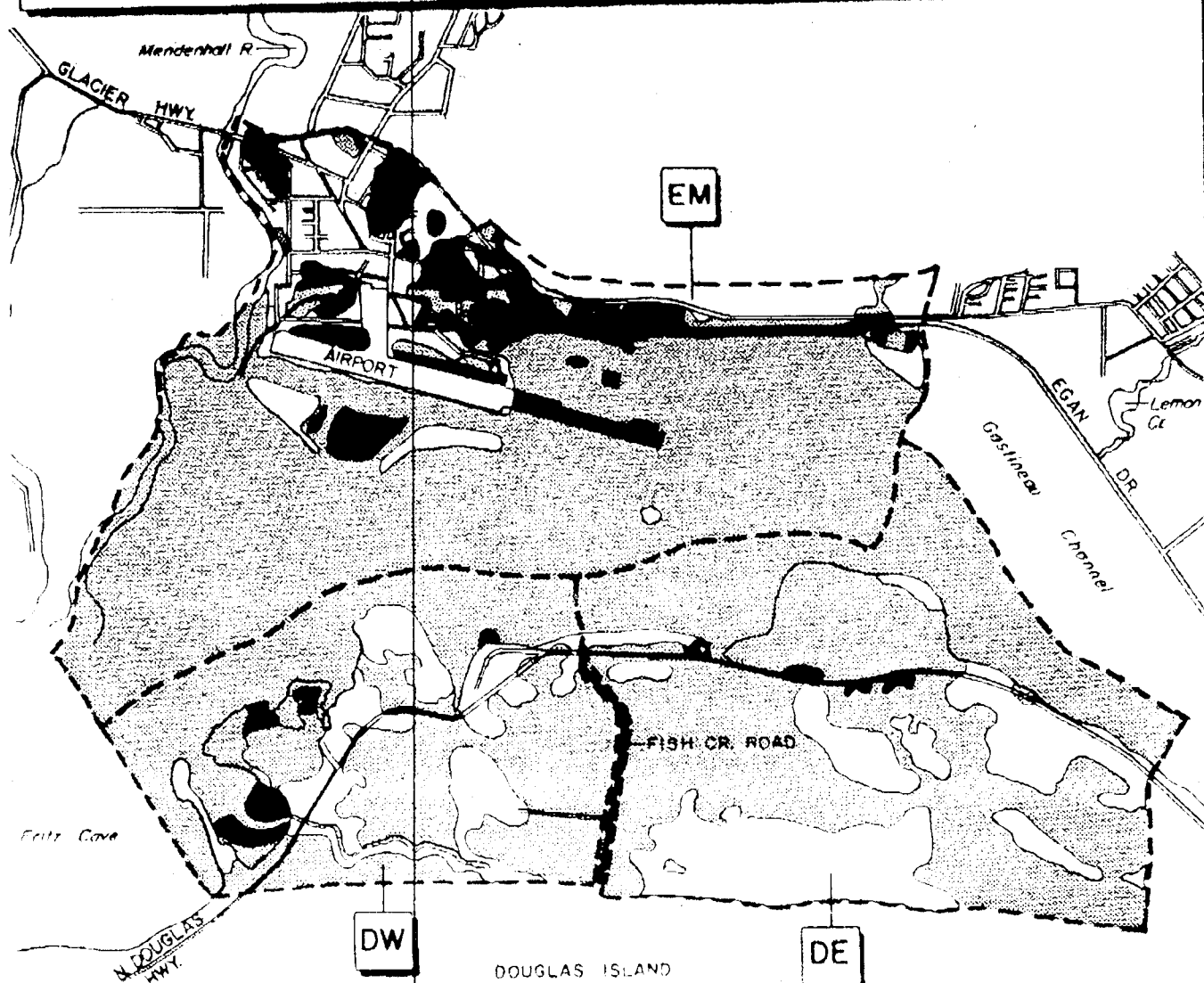
Enclosure(s)

cc: Susan Hitchcock, Corps, Juneau
Duane Peterson, USFWS, Juneau
Linda Shaw, NMFS, Juneau
Jim Loman, FAA, Anchorage
Lorraine Marshall, ADGC, Juneau
Dave Sturdevant, ADEC, Juneau
Terry Rader, ADNR, Juneau
Ben Kirkpatrick, ADFG, Douglas
Terry Stone, City and Borough of Juneau, Juneau
Mr. Ralph Sanford, Applicant, City and Borough of Juneau--Juneau International Airport
1873 Shell Simmons Drive, Juneau, Alaska 99801

FIGURE 1

1948-1984

JUNEAU WETLAND LOSSES



<i>Table 1. Summary of juvenile fish trap data for Jordan Creek</i>				
Date	Location	No. Of Traps	Catch	
11/13/81	airport runway to just above Yandukin Drive	6	100 30	coho Dolly Varden
4/23/82	mile-long stretch in beaver pond area behind Glacier Valley School	10	340 25 171	coho fry coho smolt Dolly Varden
7/6/84	from Egan Drive Bridge upstream to Nancy Street	7	223 40	coho fry Dolly Varden
7/9/84	from Nancy street upstream to Hayes Way	9	23 115	coho fry Dolly Varden
7/10/84	from Jennifer Street upstream to Amalga Street bridge	6	63 51	coho fry Dolly Varden
7/20/84	from Amalga Street bridge upstream to E. Fork headwaters	8	178 32	coho fry Dolly Varden
7/22/84	headwater tributaries above E. Fork	-	108 3	coho fry Dolly Varden

<i>Table 2. Coho salmon escapement peak counts for Jordan Creek</i>	
Date	No. of Coho
10/14/69	60
10/08/76	50
10/31/78	170
10/29/79	51
10/20/80	31
10/12/82	482
10/31/83	367
10/22/83	182
10/26/84	184
10/15/85	72
10/13/86	163
10/22/87	251
10/25/88	215
10/13/89	133
10/26/90	214
10/23/91	322

Table 3. Juvenile Coho
Wintering Densities and Habitat
in Most Productive Reaches of
Juneau Area Streams

STREAM REACH	# of Fish	Std. Dev.	#/ft
Vanderbilt (lower)	214	17.1	4.28
Jordan (Amalga St.)	154	8.6	1.54
Switzer (mud trib.)	56	11.4	1.12
Jordan (mid-beaver U)	220	29.4	1.10
Montana (slough)	157	28.7	.78
Switzer (gravel meadow)	79	15.5	.79
Jordan (Nancy)	148	13.7	.74
Jordan (Egan)	75	8.8	.75
Vanderbilt (upper meadows)	97	3.5	.49
Montana (DR channel)	118	16.6	.59
Jordan (Sand Bar - L)	99	15.9	.49
Switzer (below pond - U)	84	4.9	.42
Little Auke Cr. (Windfall)	41	8.5	.41
Jordan (Sand Bar - U)	75	13.8	.38
Jordan (Nugget Dr.)	62	6.5	.31
Jordan (Airport)	58	5.4	.29
Montana (by mouth)	111	23.3	.18
Engineers Cutoff (WT13)	27	3.6	.13
Johnson Creek (upper)	24	1.4	.12

Source: Adamus 1987

Table 4. Bird species observed in 1987 survey of the Mendenhall Wetlands, Juneau, AK

	Common Name	Scientific Name
1.	Common Loon	<i>Gavia immer</i>
2.	Grebe	<i>Podicipedidae</i>
3.	Red-necked Grebe	<i>Podiceps grisegena</i>
4.	Horned Grebe	<i>Podiceps auritus</i>
5.	Cormorant	<i>Phalacrocoracidae</i>
6.	Great Blue Heron	<i>Ardea herodias</i>
7.	Tundra Swan	<i>Cygnus columbianus</i>
8.	Trumpeter Swan	<i>Cygnus buccinator</i>
9.	Canada Goose	<i>Branta canadensis</i>
10.	Brant	<i>Branta bennicia</i>
11.	Snow Goose	<i>Chen caerulescens</i>
12.	Mallard	<i>Anas platyrhynchos</i>
13.	Gadwall	<i>Anas strepera</i>
14.	Northern Pintail	<i>Anas acuta</i>
15.	Green-winged Teal	<i>Anas crecca</i>
16.	Blue-winged Teal	<i>Anas discors</i>
17.	Cinnamon Teal	<i>Anas cyanoptera</i>
18.	Northern Shoveler	<i>Anas clypeata</i>
19.	American Wigeon	<i>Anas americana</i>
20.	Canvasback	<i>Aythya valisineria</i>
21.	Redhead	<i>Aythya americana</i>
22.	Ring-necked Duck	<i>Aythya collaris</i>
23.	Greater Scaup	<i>Aythya marila</i>
24.	Common Goldeneye	<i>Bucephala clangula</i>
25.	Barrows Goldeneye	<i>Bucephala islandica</i>
26.	Bufflehead	<i>Bucephala albeola</i>
27.	Oldsquaw	<i>Clangula hyemalis</i>
28.	Harlequin Duck	<i>Histrionicus histrionicus</i>
29.	White-winged Scoter	<i>Melanitta fusca</i>
30.	Surf Scoter	<i>Melanitta perspicillata</i>
31.	Common Merganser	<i>Mergus Merganser</i>
32.	Red-breasted Merganser	<i>Mergus serrator</i>
33.	Sharp-shinned Hawk	<i>Accipiter striatus</i>
34.	Bald Eagle	<i>Haliaeetus leucocephalus</i>
35.	Northern Harrier	<i>Circus cyaneus</i>
36.	Rough-legged Hawk	<i>Buteo lagopus</i>
37.	Peregrine Falcon	<i>Falco peregrinus</i>
38.	Merlin	<i>Falco columbarius</i>
39.	American Kestrel	<i>Falco sparverius</i>
40.	Sandhill Crane	<i>Grus canadensis</i>
41.	American Coot	<i>Fulica americana</i>
42.	Killdeer	<i>Charadrius vociferans</i>
43.	Sandpiper	<i>Scolopacidae</i>
44.	Greater Yellowlegs	<i>Tringa melanoleuca</i>
45.	Lesser Yellowlegs	<i>Tringa flavipes</i>
46.	Spotted Sandpiper	<i>Actitis macularia</i>
47.	Black Turnstone	<i>Arenaria melanocephala</i>
48.	Red-necked Phalarope	<i>Phalaropus lobatus</i>
49.	Common Snipe	<i>Gallinago gallinago</i>
50.	Short-billed Dowitcher	<i>Limnodromus griseus</i>
51.	Surfbird	<i>Aphriza virgata</i>

Source: Cain, Hodges, Robinson-Wilson. 1988. Bird use of the Mendenhall Wetlands in Juneau, Alaska. U.S. Fish and Wildlife Service

52.	Western Sandpiper	<i>Calidris mauri</i>
53.	Pectoral Sandpiper	<i>Calidris melanotos</i>
54.	Dunlin	<i>Calidris alpina</i>
55.	Glaucous-winged Gull	<i>Lanis glaucescerus</i>
56.	Herring Gull	<i>Lanis argentatus</i>
57.	Mew Gull	<i>Lanis canus</i>
58.	Bonaparte's Gull	<i>Lanis philadelphia</i>
59.	Arctic Tern	<i>Stema paradisaea</i>
60.	Caspian Tern	<i>Sterna caspia</i>
61.	Common Murre	<i>Uria aalge</i>
62.	Pigeon Guillemot	<i>Cepphus columba</i>
63.	Marbled Murrelet	<i>Brachyramphus mamoratus</i>
64.	Short-eared Owl	<i>Asio flammeus</i>
65.	Northern Saw-whet Owl	<i>Aegolius acadicus</i>
66.	Rufous Hummingbird	<i>Selasphorus rufus</i>
67.	Belted Kingfisher	<i>Ceryle alcyon</i>
68.	Swallow	<i>Hirundinidae</i>
69.	Violet-green Swallow	<i>Tachycineta thalassing</i>
70.	Tree Swallow	<i>Tachycineta bicolor</i>
71.	Bank Swallow	<i>Riparia riparia</i>
72.	Barn Swallow	<i>Hinindo rustica</i>
73.	Steller's Jay	<i>Cyanocitta stelleri</i>
74.	Black-billed Magpie	<i>Pica pica</i>
75.	Common Raven	<i>Corvus corax</i>
76.	Northwestern Crow	<i>Corvus caurinus</i>
77.	Chestnut-backed Chickadee	<i>Panus rufescens</i>
78.	American Dipper	<i>Ginclus mexicanus</i>
79.	American Robin	<i>Turdus migratorius</i>
80.	Varied Thrush	<i>Ixoreus naevius</i>
81.	Swainson's Thrush	<i>Cathanus ustulanus</i>
82.	Ruby-crowned Kinglet	<i>Regulus calendula</i>
83.	Water pipit	<i>Anthus spinoletta</i>
84.	Northern Shrike	<i>Lanius excubitor</i>
85.	Starling	<i>Stumidae</i>
86.	Orange-crowned Warbler	<i>Vernivora celata</i>
87.	Yellow-rumped Warbler	<i>Dendroica coronata</i>
88.	Townsend's Warbler	<i>Dendroica townsendi</i>
89.	Wilson's Warbler	<i>Wilsonia pusilla</i>
90.	Red-winged Blackbird	<i>Agelaius phoeniceus</i>
91.	Rusty Blackbird	<i>Euphagus carolinus</i>
92.	Common Redpoll	<i>Carduelis flammea</i>
93.	Pine Siskin	<i>Carduelis pinus</i>
94.	White-winged Crossbill	<i>Laxia leucopteria</i>
95.	Savannah Sparrow	<i>Passerculus sandwichensis</i>
96.	Dark-eyed Junco	<i>Junco hyemalis</i>
97.	White-crowned Sparrow	<i>Zonotrichia leucophrys</i>
98.	Fox Sparrow	<i>Passerella iliaca</i>
99.	Lincoln's Sparrow	<i>Melospiza lincolni</i>
100.	Song Sparrow	<i>Melospiza melodia</i>
101.	Lapland Longspur	<i>Calcarius lapponicus</i>
102.	Winter Wren	<i>Troglodytes troglodytes</i>
103.	Rosy Finch	<i>Leucosticte arcioa</i>

Table 5. Average number of the 20 most numerous species observed in each unit per survey in order of decreasing abundance.

Unit 9		
1	CAN GOOSE	10.44
2	SCAUP SPP	7.66
3	BUFFLEHEAD	6.31
4	MALLARD	8.09
5	GOLDENEYE	3.78
6	AM WIGEON	3.59
7	GRWI TEAL	0.41
8	NW CROW	0.30
9	N PINTAIL	0.30
10	ARCT TERN	0.29
11	SHOREBIRD	0.22
12	TREE SWALL	0.20
13	COM RAVEN	0.12
14	GR YELLOWL	0.09
15	TRUMP SWAN	0.09
16	SWALLOW SP	0.07
17	BAR GOLDEN	0.07
18	CO MERGANS	0.05
19	SAV SPARRO	0.04
20	BANK SWALL	0.04

Table 6. Juneau Wetlands Losses (1948 - 1984)

Data courtesy U.S. Fish and Wildlife Service, except the last column, which was developed by CBJ Department of Community Development. See Figure 2 for boundaries of statistical units and text for discussion.

Subunit	Subunit Size	Wetlands Filled Since 1948		Development Since 1948		Wetlands as % of Study Area (1948)		Remaining Undeveloped Areas		Developable Upland ³
		Acres	Acres/Yr	% in Wetlands	% in Upland	% in Wetlands	% in Upland	Total	Upland ¹ Palustrine ²	
Duck (D)	1,690	320.6	8.9	28.0	71.7	27	508	379	95	51
Jordan (J)	484	4.3	0.1	9.5	90.5	32	484	332	152	0
Lower (LM) Montana	1,019	6.3	0.2	6.6	93.0	56	918	346	496	45
Upper (UM) Montana	1,207	6.5	1.8	7.8	92.0	37	1,101	656	444	110
Auke Bay (A)	1,208	30.2	0.8	43.8	56.0	42	1,115	642	307	202
West (WM) Mendenhall	1,901	119.6	3.3	73.0	26.8	58	1,710	728	524	137
East (EM) Mendenhall	2,712	309.2	8.6	66.6	33.3	81	1,997	126	84	126
Lemon (L)	2,049	309.9	8.6	35.1	64.9	58	1,146	258	226	134
East Douglas Island (DE)	2,002	21.2	0.6	42.1	57.9	75	1,952	477	1,038	24
West Douglas Island (DW)	1,334	25.1	0.7	60.9	39.1	78	1,292	280	564	232
TOTAL	15,606	1,162	32.3	38.3	61.7	59	15,277	4,224	7,933	1,061

¹Much of this upland acreage may be unbuildable due to ownership, geotechnical limitations, and other factors.

²Palustrine wetlands basically are freshwater wetlands that are not lakes or rivers.

³See text for criteria and explanation



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
ALASKA OPERATIONS OFFICE
Room 537, Federal Building
222 W. 7th Avenue, #19
Anchorage, Alaska 99513-7588

October 16, 1998

Reply to
Attn. of: AOO/A

Colonel Sheldon L. Jahn
Alaska District Engineer
Department of Army
U.S. Army Corps of Engineers
Post Office Box 898
Anchorage, Alaska 99506-0898

ATTN: Ms. Susan Hitchcock

RE: Gasuncau Channel 341; AA-810320
City and Borough of Juneau---Juneau International Airport

Dear Colonel Jahn:

This letter regards the referenced Public Notice (PN) of Application for Permit submitted by the City and Borough of Juneau (C.B.J.) --- Juneau International Airport to discharge approximately 54,000 cubic yards of clean sand and gravel, and approximately 3,000 cubic yards of Class I and Class II rip rap, within an approximate 300-ft W x 800-ft L (5.5 acres) area of intertidal/estuarine and emergent wetlands at the Juneau International Airport (JIA). The purpose of the project is to expand the hangar and tie down areas within JIA. Based on the project plans, this project would add an additional 16 hangars and 30 aircraft tie downs.

In general, the U.S. Environmental Protection Agency (EPA) supports the needs of local communities. However, under the Clean Water Act, the EPA has a responsibility to ensure that impacts associated with development activities will not result in a substantial and unacceptable impact to the nation's aquatic resources held in public trust. To date, the applicant has not adequately demonstrated that the proposed project would avoid and/or minimize impacts to the aquatic environment. Moreover, the applicant has not provided mitigation options to compensate for unavoidable adverse impacts from the proposed discharge.

The EPA has reviewed the referenced PN. Based on the interagency site visit of June 24, 1998, we believe that the project, as proposed, may result in substantial and unacceptable impacts to an aquatic resource of national importance. In addition, the proposed project may not comply with the Section 404(b)(1) Guidelines. Therefore, we recommend that the Corps deny the permit request.

Public Interest/Need

At this time, it would appear that the applicant may not have provided sufficient information to demonstrate a viable purpose and public need to discharge fill material into a special aquatic site in order to expand the hangar and tie down areas of the JIA. The applicant is currently updating the Juneau International Airport Master Plan (Plan). As indicated by the applicant, the Plan would provide details of the future growth needs of the aviation industry and would show this area as expansion for hangars and tie-downs. We recommend that the

applicant provide the final updated Plan in order to adequately demonstrate a public interest/need for this project.

Although not explicitly identified, a secondary purpose for this project is to eliminate bird habitat on the north side of the runway. The EPA understands the applicant's concern regarding the potential bird strike hazard conditions. However, the applicant should consider other less damaging practicable alternatives that would avoid and/or minimize impacts to the 5.5 acres of intertidal/estuarine wetlands.

AQUATIC RESOURCE OF NATIONAL IMPORTANCE

The proposed project area is located in intertidal/estuarine wetlands adjacent to Jordan Creek. These estuaries contribute to the biological productivity of Jordan Creek and the Mendenhall Wetlands ecosystem. The EPA believes that the Mendenhall Wetlands ecosystem may be an aquatic resource of national importance. The following discussion represents our rationale for making this preliminary determination:

In this region of Southeast Alaska, estuarine wetlands are vital wintering, staging, rearing, and feeding habitat for migratory waterfowl, shorebirds, raptors, gulls, and passerines. They provide habitat for many year-round resident species of birds, as well. At least 227 species of birds have been observed in the Mendenhall Wetlands.¹ The proposed project site (between the runway and Jordan Creek) is located in a previous U.S. Fish and Wildlife Service (USFWS) bird survey area (Unit 9) for the Mendenhall wetlands. The survey indicated that these wetlands supported a large concentration of scaup, bufflehead, green-winged teal, mallard, American wigeon and trumpeter swan. Other birds observed in this area included: Canada goose, goldeneye, northwestern crow, northern pintail, arctic terns, shorebirds, tree swallows, common raven, greater yellowlegs, swallow spp, common mergansers, savannah sparrows, bank swallow, etc.²

This intertidal/estuarine wetlands area adjacent to Jordan Creek, identified as M4, are rated "High" for the following ecological functions: sediment/toxicant retention, nutrient export, riparian support, salmonid habitat, and disturbance sensitive wildlife.³ Wetland functions and values that rated "Moderate High" included: surface hydrological control, and recreation use/potential. Furthermore, a tributary connects to Jordan Creek on the northeast corner. This tributary was created as a fisheries enhancement project to mitigate for the unavoidable wetlands impacts resulting from previous fill activities for the airport.

Jordan Creek (# 111-50-10620) is catalogued as being important for the spawning, rearing, or migration of anadromous fish, in particular, coho, chum, and pink salmon, and Dolly Varden char.⁴ Past fish trapping data/studies have shown that fish populations seem comparable to or higher than most other small streams in Southeast Alaska.⁵ Certain reaches of Jordan Creek had exceptional numbers of juveniles, many of very good size. However, more recent fish trapping data from the Alaska Department of Fish and Game (ADFG) have indicated a serious decline in the number of returning coho salmon to Jordan Creek.

¹ Alaska Department of Fish and Game (1990). Mendenhall Wetlands State Game Refuge Management Plan.

² Cain, S.L., Hodges, J.L., and Wilson, E. (1988). Bird use of the Mendenhall Wetlands in Juneau, Alaska. U.S. Fish and Wildlife Service.

³ City and Borough of Juneau (1997) Juneau Wetlands Management Plan (Revised).

⁴ Alaska Department of Fish and Game (1997). Catalogue of waters important for spawning, rearing, or migration of anadromous fishes. Southeast Region.

⁵ Adamus (1987) Juneau Wetlands: Functions and Values. Prepared for the City and Borough of Juneau.

SUBSTANTIAL AND UNACCEPTABLE IMPACTS

The proposed expansion of the airport hangar and tie downs would directly impact 5.5 acres of estuarine wetlands adjacent to Jordan Creek, and part of the Mendenhall wetlands ecosystem, which may be an aquatic resource of national importance. A large portion of the upper estuaries of the Mendenhall wetlands complex have been directly impacted and/or degraded as a result of development for the Juneau International Airport, as well as residential, industrial, and commercial activities. As indicated above, the Mendenhall wetlands support an abundant and diverse assemblage of resident and migratory birds. Because of the proximity to a major population center, over 50% of the original wetlands acreage have been eliminated due to commercial and residential development.²

Between 1948 and 1984, over 67 percent of wetlands in the East Mendenhall subunit boundary have been developed as a result of commercial and industrial activities.³ Further wetlands have been lost, degraded, and/or altered since that time. In particular, Jordan Creek has been affected by past timber clear cuts, gravel pit extraction operations, road crossings, culverts, and channelization resulting in sedimentation of its pool complexes. These past land use activities have had detrimental effects on fish habitat values.³ Moreover, the tidally influenced reach of Jordan Creek is currently confined through a 300-ft long culvert under Runway 8/26 of JIA. The lower reaches of Jordan Creek have been channelized to accommodate development of the airport and stream side property.³

The secondary and cumulative impacts of this proposed activity may result in substantial and unacceptable impacts to critical fish rearing habitat provided by Jordan Creek and the intertidal/estuarine wetlands. Presently, Jordan Creek may be water quality impaired for sediments, debris, and dissolved oxygen as a result of the incremental land development. Storm water runoff from the tie down area may contribute to degradation of the water quality by further loading of sediments, metals, salts, petroleum derived organic chemicals, deicing agents, and other pollutants.

Impaired Water body

Section 303(d) of the Clean Water Act (CWA) requires that the State develop a list of water bodies for which existing pollution controls or requirements are inadequate to provide for the attainment and maintenance of water quality standards.

On July 6, 1998, the Alaska Department of Environmental Conservation (ADEC) completely submitted the 1998 Final – April 1, 1998, Section 303(d) Listed Water Quality-Limited Waterbodies (List) for Alaska to the EPA. On August 11, 1998, the EPA partially approved this List, which included the listing of Jordan Creek as a Tier I⁷ water quality-limited waterbody due to pollutants, such as sediments, debris, and dissolved oxygen (DO). Jordan Creek has not been placed on any of the previous years' listings. The sources of these pollutants were identified to include land development and road runoff. The Narrative Explanation for listing Jordan Creek on the 1998 Final Section 303(d) List indicates that:

Coho salmon have dropped from an average of 250 adult returns to 54 in 1996 and 18 in 1997. It has been one of the most productive small streams in Juneau and Southeast Alaska for coho salmon but has experienced a rapid decline. There are serious sediment problems in the stream with poor survival of salmon eggs and low oxygen readings in the substrate that are in violation of water quality standards. The stream is largely spring fed and cannot transport large volumes of sediments like higher gradient systems. The headwaters of the stream have been manipulated with ditches replacing more productive habitat and

⁶ Bethers, M., Munk, K., and Seifert, C. (1993) Juneau Fish Habitat Assessment. Alaska Department of Fish and Game, Division of Sportfish, Douglas, Alaska.

⁷ Tier I: Water quality-limited water bodies for which ADEC has documentation to indicate that the requirements of Section 303(d) list criteria are met, but the water bodies have not yet undergone comprehensive water quality assessments to: (1) verify the extent of water quality criteria exceedences; and (2) confirm that they cannot meet water quality standards under existing technology-based or similar controls by the next listing cycle (April 2000).

with ponds being filled in. There is a problem with iron floc that was not present 10 years ago. The stream corridor is being rapidly developed and the lower section of the creek regularly goes dry. Macro-invertebrate sampling has shown the stream has low diversity and is experiencing declines over the 1994 to 1996 period.⁸

Executive Order 12088 requires that, among other things, the actions (e.g., permit issuance) of federal agencies must fully comply with the environmental standards established in accordance with the Clean Water Act, including, but not limited to, water quality standards, best management practices, etc. Federal agencies should not authorize any activity that, cumulatively, would increase the load of pollutants of concern to a proposed CWA Section 303(d) listed water body.

The proposed fill for the expansion of the hangar and tie-down areas would create a new source of pollutant loading into Jordan Creek. Erosion from the fill side slopes could result in further loading of sediments and debris into Jordan Creek, resulting in further exceedences of the water quality standards for these pollutants. Storm water runoff from the hangar and tie-down areas could introduce additional pollutants, including metals, oil and other petroleum hydrocarbons, deicing agents, etc. into Jordan Creek, contributing to lower dissolved oxygen levels. The cumulative loading of pollutants from the proposed fill activity would result in substantial and unacceptable impacts to Jordan Creek.

SECTION 404(B)(1) GUIDELINES EVALUATION

As mentioned above, the EPA believes that the proposed activity may result in substantial and unacceptable impacts to an aquatic resource of national importance. As proposed, this project does not comply with the Section 404(b)(1) Guidelines [Guidelines]. Therefore, we recommend that the Corps deny the permit request in order to protect the aquatic resource of national importance.

The following represents EPA's findings of non-compliance with the restrictions on discharges as required under the Guidelines:

Section 230.10(a) Least Damaging Practicable Alternative

The applicant has not clearly demonstrated that there are no less damaging practicable alternatives to the proposed discharge of fill into intertidal/estuarine wetlands. In order to demonstrate compliance with this section, the applicant should evaluate other alternative sites, alternative configurations/layout designs, and alternative size requirements to fulfill the basic project purpose.

Section 230.10(b) State Water Quality Standards

Under Section 230.10(b)(1), the proposed discharge of fill material may cause or contribute to violations of the Alaska State Water Quality Standards (18 AAC 70). As mentioned above, Jordan Creek is listed on the 1998 Section 303(d) List. Jordan Creek is water quality limited for pollutants of concern, such as sediment, debris, and dissolved oxygen. The sources of these pollutants include land development and road runoff. We believe that the proposed activity may contribute to additional loading of sediments and debris, resulting in decreased levels of dissolved oxygen in Jordan Creek.

Section 230.10(c) Significant Degradation

The proposed activity may cause or contribute to significant degradation of the Mendenhall wetland

⁸ Alaska Department of Environmental Conservation (1998). 1998 Final-April 1, 1998. Section 303(d) Listed Water Quality-Limited Waterbodies; Tier I-Waters which require assessments, verification of pollution and controls in-place or needed.

complex. Piecemeal development within these coastal estuaries have resulted in the cumulative loss of this type of wetlands. Over 50 percent of the original wetlands acreage have been eliminated. These wetlands provide important rearing and overwintering habitat for several species of salmon, as well as staging, feeding, and rearing habitat for migratory and resident birds. Further impairment of the water quality may significantly degrade the aquatic life of Jordan Creek.

Section 230.10(d) Appropriate and Practicable Steps

To date, the applicant has not taken appropriate and practicable steps to minimize potential adverse impacts of the discharge on the aquatic ecosystem. Appropriate and practicable steps must be taken to modify the proposed project that will result in a net decrease in the pollutant loading to Jordan Creek. These steps may include, but not be limited to, the following:

1. Reduce the fill footprint by reorienting and reconfiguring the hangar and aircraft tie-down area to the minimum necessary to fulfill the basic project purpose. When considering the overall hangar and tie-down needs for the entire JIA, eliminating a few number of hangars and tie downs from these intertidal/estuarine wetlands could substantially reduce the fill footprint area;
2. Reduce the fill footprint in wetlands to maintain a minimum 50-ft vegetated buffer as measured from the Ordinary High Water Mark (OHWM) of Jordan Creek and the toe of fill slope;
3. Evaluate other alternatives to the discharge of Class I and Class II riprap to stabilize the fill side slopes, such as revegetation with low shrubs (e.g., willow), native grasses, and/or a mixture of native vegetation interspersed with rock lined drainage ditches;
4. Develop and implement an Erosion and Sediment Control Plan, which includes schedules for inspecting, maintaining, and cleaning of the proposed oil water separator on a regular basis, etc.; and
5. Develop and implement a water quality monitoring program for the lower reach of Jordan Creek.

Compensatory Mitigation

Provided that all appropriate and practicable steps have been taken to avoid and minimize the substantial and unacceptable impacts to the aquatic environment, the applicant must identify adequate compensatory mitigation options for the 5.5 acres of wetland impacts. The type and amount of compensatory mitigation proposed must be commensurate with the level of environmental impact to the aquatic environment.

The applicant has indicated a willingness to provide mitigation for the wetlands impacts. The EPA recommends that any proposed compensatory mitigation be preferably on-site and in-kind. The following are several recommendations for proposed compensatory mitigation options:

1. On-Site and In-Kind

The applicant currently owns a substantial acreage of intertidal/estuarine wetlands adjacent to the Mendenhall River that comprise the west end of the JIA boundary. The applicant is currently evaluating the extension of the west end runway safety area, which could impact approximately 4 acres of intertidal/estuarine wetlands. As part of this overall proposed airport development, the EPA would prefer that future airport expansion occur toward the east end of the JIA boundary in order to maintain/preserve the remnant wetlands adjacent to the Mendenhall River on the west end. The EPA recommends that the applicant set aside the remaining portions of these intertidal/estuarine wetlands adjacent to the Mendenhall River as a conservation easement. This easement could be managed in perpetuity by the Southeast Land Trust (SEAL Trust).

2. On-Site Restoration

Replace the approximate 300-ft long culvert at the mouth of Jordan Creek that runs underneath Runway 8/26 with a wider (diameter) bottomless arched culvert. The existing culvert may be undersized and may restrict/limit fish passage at low tides.

3. In-Lieu Fees, In-Kind

Contribute a fee to a conservation fund with the SEAL Trust in-lieu of on the ground mitigation. This fund could be utilized the funds to purchase ecologically important intertidal/estuarine wetland areas within the Mendenhall wetlands ecosystem. The actual fee amount could be based upon the current assessed value of the 5.5 acres of land.

4. Wetlands Mitigation Bank

It is our understanding that the applicant is currently evaluating the feasibility of developing a wetlands mitigation bank for the City and Borough of Juneau. A wetlands mitigation bank would be an opportunity for the applicant to provide compensatory mitigation for this project, as well as future airport expansion projects that would impact wetlands.

5. Off-Site and In-Kind

The applicant currently owns large tracts of land within the City and Borough of Juneau boundaries. Certain lands may include areas within Berners Bay. There may be an opportunity for the applicant to set aside 5.5 acres of intertidal/estuarine wetlands within Berners Bay as part of the Wetland Mitigation Bank and/or as a conservation easement. This easement could be managed in perpetuity by the SEAL Trust.


The EPA would be willing to provide assistance in the development of additional mitigation options that would ensure that the applicant complies with the Section 404(b)(1) Guidelines of the Clean Water Act.

Therefore, on the basis of these Guidelines, the proposed site for the discharge of dredged or fill material must be specified as failing to comply with the requirements of these Guidelines where there does not exist sufficient information to make a reasonable judgement as to whether the proposed discharge will comply with these Guidelines [Section 230.12(a)(3)(iv)]. In our opinion, the applicant has not provided sufficient information to demonstrate compliance with the requirements of these Guidelines.

In accordance with the provisions of the 1992 Memorandum of Agreement (MOA), Part IV, Paragraph 3(a), under Section 404(q) of the Clean Water Act, the EPA believes that the proposed activity may result in substantial and unacceptable impacts to an aquatic resource of national importance. Since the proposed project does not comply with the Section 404(b)(1) Guidelines, we recommend denial of the permit request.

Thank you for the opportunity to review and comment on the proposed activity. We would be available to meet with you, the applicant, and other state and federal agencies to follow up on our recommendations. Please continue to coordinate with our office in accordance with the MOA and the local procedures agreed to by our respective agencies. If you have any questions, please feel free to contact me at (907) 271-5083 or have your staff contact Mark Jen at (907) 271-3411.

Sincerely,


 Richard Albright, Director
 Alaska Operations Office

cc: Susan Hitchcock, Juneau
Duane Peterson, USFWS, Juneau
Linda Shaw, NMFS, Juneau
Lorraine Marshall, ADGC, Juneau
Dave Sturdevant, ADEC, Juneau
Terry Rader, ADNRR, Juneau
Terry Stone, CBJ, Juneau
Ben Kirkpatrick, ADFG, Douglas
Mr. Ralph Sanford, Applicant, City and Borough of Juneau—Juneau International Airport
1873 Shell Simmons Drive, Juneau, Alaska 99801

